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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/804,330	03/12/2001	Richard W. Heath	537-1042	1010

7590

06/17/2004

William M. Lee, Jr.
Lee, Mann, Smith, McWilliams, Sweeney & Ohlson
P. O. Box 2786
Chicago, IL 60690-2786

EXAMINER

BELLO, AGUSTIN

ART UNIT	PAPER NUMBER
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2633

DATE MAILED: 06/17/2004

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/804,330

Applicant(s)

HEATH ET AL.

Examiner

Agustin Bello

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2633

DETAILED ACTION

Allowable Subject Matter

1. The indicated allowability of claims 10-13 and 17-18 is withdrawn in view of the broader interpretation of reference(s) to Vanoli (U.S. Patent No. 5,712,716) and the non-statutory subject matter of claim 17 and 18. Rejections based on the reference(s) follow.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 17 and 18 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 17 is directed to a computer program which is non-statutory subject matter. The examiner suggests that the applicant include the limitations of claim 18 which place the program onto a computer readable medium, thereby meeting the statutory subject matter requirement.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vanoli (U.S. Patent No. 5,712,716).

Art Unit: 2633

Regarding claim 1-16, Vanoli et al discloses a plurality of nodes (14) (WDM 14 in booster, preamplifier and line amplifier; see also Fig. 2, and lines 25-32, 42-47 and 62-67 of column 8), a plurality of apparatus (38,39,41) each comprises an input (38), a processor (45) for processing the inputs to determine the OSNR (lines 15-20 of column 19), one or more optical amplifiers (active fiber 12; Fig. 2, lines 25-32, 42-47 and 62-67 of column 8) being provided between adjacent pairs of nodes (14). Each apparatus (38,39,41) comprises a tunable filter (39, Fig. 3) and a signal measuring circuit (Figs. 5 and 12). Vanoli differs from the claimed invention in that Vanoli fails to specifically teach that noise shaping is taken into account by taking measurements upstream and downstream from a node when carrying out signal to noise calculations further downstream of the node. However, one skilled in the art would clearly have recognized that the node 38 immediately after line amplifier 6b could be considered the node of interest. As such, one skilled in the art would have recognized that signal level measurements taken upstream (e.g. at node 38 after line amplifier 6a) and downstream (e.g. node 38 after pre-amplifier 9) would have enabled one skilled in the art to more accurately determine the signal to noise ratio further downstream of the node since doing so would have taken into account the effects of the node of interest. One skilled in the art would have been motivated to have done so in order to more accurately determined the signal to noise ratio in the system. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to take noise shaping into account by taking measurements upstream and downstream from a node when carrying out signal to noise calculations further downstream of the node.

Conclusion

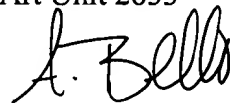
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (703)308-1393. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703)305-4729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AB

Agustin Bello
Examiner
Art Unit 2633

A handwritten signature in black ink, appearing to read 'A. Bello', written over the printed name and title.